occurs, possibly owing to the presence in the solution of such reducing agents as nascent hydrogen, &c.

In the present incomplete stage of the enquiry these remarks are only offered tentatively.

The effects could not be expected to be large; I anticipate, however, generally more marked results in a more powerful magnetic field, exerting its influence, perhaps, for longer periods; but I think the experiments now submitted appear sufficient at least to afford an indication that, under the conditions recorded, magnetisation exerts on iron, in some solutions, an appreciable effect. The results already obtained in this direction are so far interesting as to encourage further research into the nature of this novel and subtle phenomenon.

XXVII. "Note on the Functions of the Sinuses of Valsalva and Auricular Appendices, with some Remarks on the Mechanism of the Heart and Pulse." By M. COLLIER. Communicated by VICTOR HORSLEY, F.R.S., Professor Superintendent of the Brown Institution. Received June 9, 1887.

(Abstract.)

The object of the paper is to disprove the present apparently accepted idea, that the sinuses of Valsalva are mere bulgings of the arterial walls, formed by a reflex current induced by the sudden closure of the semilunar valves.

The existence of a reflex current is shown to be impossible, and the theory of the sudden opening and closure of the semilunar valves is strongly opposed.

The presence of the sinuses of Valsalva is urged as an absolute essential to the mechanism of the heart's action. The paper then treats of the action of the auricle and the part played by the auricular appendix, the latter being considered as the only part of the auricle that sensibly and vigorously contracts.

The causes of the first sound of the heart are next alluded to, and the theory that the closure and vibration of the tricuspid and mitral valves assist in its production is refuted. The action of the ventricle and the mode of the injection of its contents into the aorta is dwelt upon at some length.

The latter part of the paper is devoted to the mechanism of the pulse, and an explanation is given of the so-called dicrotism.

The paper terminates with a summary of the chief points of the conclusions arrived at.